

ABSTRACT

An electromechanical filter capable of attaining a size reduction and a higher integration and executing a high-sensitivity signal sensing is provided. A quantum device is used as a sensing portion to implement a fine and highly sensitive sensing. A microvibrator 101 that is able to resonate with an input signal, and a sensing electrode 103 arranged at a predetermined interval to the microvibrator are provided. Since a change in an electrostatic capacity between the microvibrator and the sensing electrode can be sensed, a high-sensitivity sensing mechanism that is hard to realize in the prior art can be achieved.